



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

JOHN ELIAS BALDACCI  
GOVERNOR

DAVID P. LITTELL  
COMMISSIONER

Maine Medical Center-Brighton Campus )  
Cumberland County )  
Portland, Maine )  
A-57-71-J-R/A )  
Departmental  
Findings of Fact and Order  
Air Emission License

After review of the air emissions license application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

**I. REGISTRATION**

**A. Introduction**

Maine Medical Center – Brighton Campus (MMCB) of Portland, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their healthcare facility.

MMCB has requested an amendment to their License in order to reduce the heat input capacity of boilers #1 and #2 from 8.4 to 5.1 MMBtu/hr, and to replace Generators #1 and #2 with a single larger Generator to be identified as Generator #3. MMCB has also requested to permit Boilers #1 and #2 to fire Natural Gas as well as #2 fuel oil.

**B. Emission Equipment**

MMCB is authorized to operate the following equipment:

**Fuel Burning Equipment**

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate</u>	<u>Fuel Type</u>	<u>Stack #</u>
Boiler #1	5.1	37 gal/hr 5230 scf/hr	#2 fuel oil, Natural Gas	1
Boiler #2	5.1	37 gal/hr 5230 scf/hr	#2 fuel oil, Natural Gas	1
Boiler #3	8.4	60 gal/hr	#2 fuel oil	1

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106 HOGAN ROAD, SUITE 6  
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PRESQUE ISLE  
1235 CENTRAL DRIVE, SKYWAY PARK  
PRESQUE ISLE, MAINE 04679-2094  
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### Electrical Generation Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Firing Rate (gal/hr)</u>	<u>Pollution Controls</u>	<u>Stack #</u>
Generator #3	7.8	57	none	2

#### C. Application Classification

The modification of a minor source is considered a major modification based on whether or not expected emission increases exceed the "Significant Emission Levels" as defined in the Department's regulations. This application is determined to be a renewal with a minor modification and has been processed as such.

## II. BEST PRACTICAL TREATMENT (BPT)

### A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in *Definitions Regulation*, 06-096 CMR 100 (last amended December 24, 2005). BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emissions from the source being considered; and
- the economic feasibility for the type of establishment involved.

### B. Boilers #1, #2, and #3

MMCB operates boilers #1, #2, and #3 primarily for facility heat and hot water needs. The Boilers are rated at a maximum heat input capacity of 5.1, 5.1 and 8.4 MMBtu/hr respectively. Therefore, The Boilers are not subject to EPA New Source Performance Standards (NSPS) Subpart Dc for boilers with a maximum

design heat input capacity greater than 10 MMBtu/hr. Boilers #1 and #2 fire #2 fuel oil and natural gas, while Boiler #3 fires only #2 fuel oil.

A BPT summary for Boilers #1, #2, and #3 when firing #2 fuel oil follows:

1. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of #2 fuel oil which meets the criteria in ASTM D396 is more stringent and shall be considered BPT.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
3. NOx, CO and VOC emission limits are based upon AP-42 data dated 9/98.
4. Visible emissions from the common stack serving Boilers #1, #2 and #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

A BPT summary for Boilers #1 and #2 when firing natural gas follows:

1. *Low Sulfur Fuel*, 06-096 CMR 106 (last amended June 9, 1999) regulates fuel sulfur content. However, the use of natural gas is more stringent and shall be considered BPT.
2. *Fuel Burning Equipment Particulate Emission Standard*, 06-096 CMR 103 (last amended November 3, 1990) regulates PM emission limits. However, a PM emission limit of 0.05 lb/MMBtu is more stringent and shall be considered BPT. The PM<sub>10</sub> limits are derived from the PM limits.
3. NOx, CO and VOC emission limits are based upon AP-42 data dated 7/98.
4. Visible emissions from the common stack serving Boilers #1, #2 and #3 shall not exceed 10% opacity on a six (6) minute block average, except for no more than one (1), six (6) minute block average in a continuous 3-hour period.

#### C. Generator #3

MMCB operates generator #3 as a back-up unit for electrical generation as needed in case of an emergency.

Emergency Generator is defined as any stationary internal combustion engine whose operation is limited to emergency situations and required testing and maintenance. Examples include stationary engines used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary engines used to pump water in the case of fire or flood. Stationary engines used to supply power to an electric grid or that supply power as part of a financial arrangement with another entity are not considered to be emergency engines.

Generator #3 was ordered after July 11, 2005 and manufactured after April 1, 2006. Therefore, Generator #3 is subject to New Source Performance Standards 40 CFR Part 60, Subpart IIII, *Standards of Performance for Stationary Compression Ignition Internal Combustion Engines*.

A summary of the BACT analysis for Generator #3 is the following:

1. Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm.
2. Beginning October 1, 2010, Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm.
3. Generator #3 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator #3 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours.
4. Generator #3 shall be equipped with a non-resettable hour meter.
5. 06-096 CMR 103 regulates PM emission limits. The PM<sub>10</sub> limits are derived from the PM limits.
6. NO<sub>x</sub>, CO, and VOC emission limits are based upon AP-42 data dated 10/96.
7. MNCB shall operate and maintain Generator #3 in accordance with the manufacturer's written instructions. Facility shall not change settings that are not approved in writing by the manufacturer.
8. Visible emissions from Generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period.

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**D. Annual Emission Restrictions**

1. MMCB shall be limited to firing 200,000 gal of #2 fuel oil on a 12 month rolling total.
2. Generator #3 shall be limited to 500 hours of operation on a 12 month rolling total.
3. Emissions are calculated based on the worst case scenario of firing 200,000 gallons of #2 fuel oil in Boiler #3, and the continuous firing of natural gas in Boilers #1 and #2.
4. MMCB shall be restricted to the following annual emissions, based on a 12 month rolling total:

**Total Licensed Emissions for the Facility**  
(used to calculate the annual license fee)

Tons/Year

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
#2 Fuel Oil	2.8	2.8	7.1	2.0	0.5	0.1
Natural Gas	2.3	2.3	0.1	4.6	3.9	0.3
Generator #3	0.2	0.2	0.1	6.2	1.7	0.2
<b>Total TPY</b>	<b>5.3</b>	<b>5.3</b>	<b>7.3</b>	<b>12.8</b>	<b>6.1</b>	<b>0.6</b>

**III.AMBIENT AIR QUALITY ANALYSIS**

According to the 06-096 CMR 115, the level of air quality analyses required for a renewal source shall be determined on a case-by case basis. Therefore, based on the above license allowed emissions, monitoring and modeling are not required for this renewal.

**ORDER**

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-57-71-J-R/A subject to the following conditions:

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

## STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (38 M.R.S.A. §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115. [06-096 CMR 115]
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both. [06-096 CMR 115]
- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request. [06-096 CMR 115]
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353. [06-096 CMR 115]
- (6) The license does not convey any property rights of any sort, or any exclusive privilege. [06-096 CMR 115]
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions. [06-096 CMR 115]
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request. [06-096 CMR 115]

- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license. [06-096 CMR 115]
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license. [06-096 CMR 115]
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
- A. perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
    - 1. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or
    - 2. pursuant to any other requirement of this license to perform stack testing.
  - B. install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
  - C. submit a written report to the Department within thirty (30) days from date of test completion.
- [06-096 CMR 115]
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
- A. within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
  - B. the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and

C. the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.

[06-096 CMR 115]

(13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement. [06-096 CMR 115]

(14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation. [06-096 CMR 115]

(15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status. [06-096 CMR 115]

## **SPECIFIC CONDITIONS**

### **(16) Boilers #1, #2 and #3**

A. Boilers #1, #2 and #3 shall be limited to firing 200,000 gal of #2 fuel oil on a 12 moth rolling total, which meets the criteria in ASTM D396. Fuel records from the supplier documenting quantity and type of fuel received shall be kept for compliance purposes. [06-096 CMR 115, BPT]



B. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Boiler #1 (#2 fuel oil)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #1 (natural gas)	PM	0.05	06-096 CMR 103(2)(B)(1)(a), BPT
Boiler #2 (#2 fuel oil)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)
Boiler #2 (natural gas)	PM	0.05	06-096 CMR 103(2)(B)(1)(a), BPT
Boiler #3 (#2 fuel oil)	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

C. Emissions for Boilers #1 and #2 shall not exceed the following when firing natural gas: [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.26	0.26	0.01	0.50	0.42	0.03
Boiler #2	0.26	0.26	0.01	0.50	0.42	0.03

D. Emissions for Boilers #1, #2 and #3 shall not exceed the following when firing #2 fuel oil: [06-096 CMR 115, BPT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Boiler #1	0.61	0.61	2.57	0.73	0.18	0.02
Boiler #2	0.61	0.61	2.57	0.73	0.18	0.02
Boiler #3	1.68	1.68	4.23	1.20	0.30	0.03

- E. Visible emissions when firing #2 fuel oil from the common stack serving Boiler #1, #2 and #3 shall not exceed 20% opacity based on a six (6) minute block average basis, except for no more than one (1), six (6) minute blocks in a three-hour period. [06-096 CMR 101]
- F. Visible emissions when either boiler #1 or boiler #2 are firing natural gas from the common stack serving Boiler #1, #2 and #3 shall not exceed 10% opacity based on a six (6) minute block average basis, except for no more than one (1), six (6) minute blocks in a three-hour period. [06-096 CMR 101]

(17) **Generator #3**

- A. Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 500 ppm. [40 CFR 60.4207(a)]
- B. Beginning October 1, 2010, Generator #3 shall fire only diesel fuel with a maximum sulfur content not to exceed 15 ppm. [40 CFR 60.4207(b)]
- C. Generator #3 shall be limited to 100 hr/yr of operation for maintenance checks and readiness testing. Generator #3 shall be limited to 500 hours per year of total operation. Both of these limits are based on a 12 month rolling total. Compliance shall be demonstrated by a written log of all generator operating hours. [40 CFR 60.4211(E) and 06-096 CMR 115, BACT]
- D. Generator #3 shall be equipped with a non-resettable hour meter. [40 CFR 60.4209(a)]
- E. Emissions shall not exceed the following:

Emission Unit	Pollutant	lb/MMBtu	Origin and Authority
Generator #3	PM	0.12	06-096 CMR 103(2)(B)(1)(a)

- F. Emissions shall not exceed the following [06-096 CMR 115, BACT]:

Emission Unit	PM (lb/hr)	PM <sub>10</sub> (lb/hr)	SO <sub>2</sub> (lb/hr)	NO <sub>x</sub> (lb/hr)	CO (lb/hr)	VOC (lb/hr)
Generator #3	0.94	0.94	0.40	24.96	6.63	0.70

- G. Generator #3 is subject to PM, CO, and NO<sub>x</sub> + VOC emission requirements set forth in 40 CFR 60, Subpart IIII. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer that this engine class meets the appropriate Tier standards. [40 CFR 60, Subpart IIII]
- H. Facility shall operate and maintain Generator #3 in accordance with the manufacturer's written instructions. Facility shall not change settings that are not approved in writing by the manufacturer. [40 CFR 60.4211(a)]

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- I. Visible emissions from the Generator #3 shall not exceed 20% opacity on a six (6) minute block average, except for no more than two (2), six (6) minute block averages in a continuous 3-hour period. [06-096 CMR 101]
- (18) MMCB shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (38 MRSA §605).

DONE AND DATED IN AUGUSTA, MAINE THIS 12th DAY OF January, 2010.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: James P. Brophy  
DAVID P. LITTELL, COMMISSIONER

**The term of this license shall be five (5) years from the signature date above.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 9/8/2009

Date of application acceptance: 10/2/2009

Date filed with the Board of Environmental Protection:

This Order prepared by Jonathan Voisine, Bureau of Air Quality

